Research paper

The Effectiveness of Metacognitive Therapy on Learning Styles among Female Students with Romantic Breakups

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Introduction

Throughout different stages of life, individuals form various interpersonal relationships that can either support their psychological well-being or contribute to emotional distress (Sürig et al., 2021). Among these, romantic relationships hold a particularly important place, and the dissolution of such bonds often results in intense emotional pain, including feelings of sadness, anger, and psychological turmoil (Batmaz et al., 2021). Experiencing a romantic breakup can lead to negative cognitive patterns, distorted self-beliefs, and difficulties in emotional regulation, which in turn affect one's social interactions and academic functioning (Dennie & Breier, 2021).

Research suggests that people who have faced emotional breakups tend to develop distinct learning styles and cognitive biases that influence how they process information and respond to stress (Mancone et al., 2025). Addressing these maladaptive patterns is essential for fostering resilience and improving mental health outcomes (Liang & Horn, 2022). Metacognitive therapy, which emphasizes altering negative metacognitive beliefs about the uncontrollability and danger of thoughts, aims to enhance individuals' ability to regulate attention and reduce repetitive negative thinking, such as rumination and worry (Chandra & Parija, 2021). This therapeutic approach has shown promising results in improving cognitive flexibility, modifying unhelpful learning styles, and ultimately promoting psychological recovery (Batmaz et al., 2021). Given the prevalence of emotional breakups among university students, especially young women who may be more vulnerable to adverse effects, metacognitive therapy offers a valuable intervention to support their emotional and cognitive well-being during this critical period of adjustment.

Method

This study was a quasi-experimental design with a pre-test/post-test format, including experimental and control groups. The statistical population consisted of all female students at the University of Guilan during the 2021–2022 academic year who had experienced a romantic breakup. Among them, 30 participants who met the inclusion criteria were randomly assigned into two groups of 15 each (experimental and control), with the sample size determined based on Kline (2018) recommendation for experimental studies. Inclusion criteria included willingness to participate in therapy sessions, at least six months elapsed since the end of

the relationship, a score above 20 on the Love Trauma Inventory (LTI), age between 20 and 32 years, and being an undergraduate student. Exclusion criteria consisted of absence from more than two therapy sessions, use of antidepressant medication, experiencing any adverse incident after the breakup, and entering a new romantic relationship during the study. All participants provided informed consent after receiving full explanations, and confidentiality of their information was assured. The study was approved by the Ethics Committee of the University of Guilan. Data collection instruments included the Love Trauma Inventory (LTI; Rosse, 1999) and the Thinking Styles Inventory (TSI; Sternberg & Wagner, 1992). The experimental group received eight sessions of metacognitive therapy (Wells, 2013), while the control group was placed on a waiting list. Ultimately, data were analyzed using univariate and multivariate analysis of covariance (ANCOVA) with SPSS version 24.

Results

In this study, the mean and standard deviation of the age of participants in the metacognitive therapy group were 22.58 ± 2.35 years, and in the control group were 22.21 ± 2.43 years. Descriptive findings, including the means and standard deviations of the components of learning styles in the experimental and control groups at both pre-test and post-test stages, are presented in Table 1.

Table 2. Means and Standard Deviations of Learning Styles Components in Experimental and Control Groups by Pre-Test and Post-Test Phases

Variable	Metacognitive Therapy		Control	
	Pre-test (M ± SD)	*Post-test* (M ± SD)	*Pre-test* (M ± SD)	*Post-test* (M ± SD)
Legislative	19.13 ± 2.47	22.33 ± 2.55	19.66 ± 2.69	20.20 ± 2.30
Executive	11.86 ± 2.72	16.33 ± 3.71	12.13 ± 3.29	13.13 ± 3.06
Judicial	16.66 ± 3.19	19.33 ± 3.13	15.86 ± 3.04	16.26 ± 3.17
Monarchic	15.73 ± 2.71	16.33 ± 3.49	15.06 ± 2.25	15.46 ± 3.04
Hierarchical	17.20 ± 2.75	19.93 ± 2.43	17.46 ± 2.77	17.66 ± 2.71
Oligarchic	14.73 ± 2.76	17.33 ± 2.58	14.86 ± 2.61	15.26 ± 2.37
Anarchic	19.20 ± 2.24	20.20 ± 2.73	19.60 ± 2.06	19.40 ± 2.69
Global	18.53 ± 2.85	21.00 ± 3.02	18.73 ± 3.23	18.53 ± 3.20
Local	17.73 ± 2.63	20.53 ± 2.58	18.06 ± 2.98	18.20 ± 2.75
Internal	16.53 ± 2.53	18.86 ± 2.26	16.13 ± 2.23	16.60 ± 2.92
External	15.06 ± 2.54	17.46 ± 2.32	14.53 ± 2.03	14.93 ± 2.57
Liberal	14.20 ± 2.33	16.80 ± 2.21	14.33 ± 2.02	14.40 ± 2.50
Conservative	19.86 ± 2.23	22.60 ± 2.29	20.13 ± 2.03	20.60 ± 2.35

The results of the covariance analysis assumption tests indicated a significant difference between the experimental and control groups in at least one component of learning styles ($p < .01$), with an effect size of $\eta^2 = 0.30$. This suggests that 30% of the variance in learning style components can be attributed to the experimental intervention. After controlling for pre-test scores, significant differences were found between the metacognitive therapy and control groups in the post-test scores of learning style components, except for the legislative, monarchic, anarchic, and internal styles ($p < .05$). In other words, metacognitive therapy was effective in improving learning style components, excluding those four. The greatest effects were observed in the local component, with an effect size of 59.1%, and the executive component, with an effect size of 43%.

Discussion and Conclusion

This research investigated the impact of metacognitive therapy on learning styles among female university students who had experienced emotional breakups. The findings showed that, after treatment, the experimental group demonstrated significant improvements in most components of learning styles compared to the control group (Sürig et al., 2021). This suggests that metacognitive therapy effectively enhances cognitive processing and attention regulation in individuals affected by romantic relationship failure (Mancone et al., 2025).

Metacognitive therapy works by addressing maladaptive thinking patterns such as excessive rumination and worry, which are common after emotional trauma (Dennie & Breier, 2021). It teaches individuals to recognize and change how they process and respond to intrusive thoughts, fostering a flexible, non-judgmental focus on the present moment (Chandra & Parija, 2021). By reducing over-identification with negative thoughts, this approach helps decrease anxiety, distress, and dysfunctional learning styles (Liang & Horn, 2022). Although the study had limitations, including the absence of gender comparisons, short-term assessment, and potential researcher bias, the results support the use of metacognitive therapy as a promising tool to help young women improve cognitive and emotional resilience following relationship loss. Future research should explore long-term effects and consider broader populations to strengthen these findings.

Ethical Considerations

Ethical Code

Financial Support

Authors, Contributions

Conflicts of Interest

Acknowledgments

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